Red Planet Recycle- Supervisor meeting

Minutes

Tuesday 31st Jan, 14:00

Classroom 7

Group members present

Yassen Abbas (Y.A) Gareth Herron (G.H) Charlotte Raymond (C.R)

Jamie Cassels (J.C) Sam Jones (S.J) Samuel Walpole (S.W)

Malcolm Chambers (M.C) Dylan Martin (D.M) James Young (J.Y)

Scott Clark (S.C) Bo Peng (B.P) Lois Doig (L.D)

Supervisors present

Dr Prashant Valluri & Dr Lev Sarkisov

Minutes

The “stage 1” part of the design process is now regarded as complete. It is presented both in the PowerPoint presentation which is adapted each week and in the Volume 1 report.

It was pointed out that any references used should be mentioned in the PowerPoint slides as well as in the Volume 1 report.

M.C. to consider contacting the authors of electrocoagulation papers to see if any more quantitative data can be obtained regarding the degradation rates of electrodes.

Lev pointed out that in the final presentation terms like “recovery rate” should be explained for the benefit of the audience.

The supervisors agree that it is acceptable to now progress with the design process and design one water process and one air process, provided these processes are clearly the best options based on feasibility studies.

Lev suggested that the CO2 separation group should compare the advantages of pressure vs temperature adsorption systems.

If a process cannot be selected based on the available data, perhaps other selection criteria such as data availability and testing in space can be added.

Prash suggested that any mass balances performed should firstly be done “by hand”, rather than using Excel.

For next week, we will separate into four groups, as follows:

Water group – GH, LD, MC, YA.

CO2 separation group – SJ, SC, CR

CO2 processing group – JC, JY

Water processing group (i.e. electrolysis group) – BP, SW, DM

All groups should progress as far as possible with their respective areas of design.

Additional Notes

It was decided that, for any calculations performed, 18 months would be taken as 365.23 days multiplied by 1.5, i.e. 547.875 days.